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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/570,830

**Applicant(s)**

TAYLOR ET AL.

**Examiner**

ANEZ EBRAHIM

**Art Unit**

4144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/9/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 04/09/2007

## DETAILED ACTION

1. Claims 1-36 have been examined and are pending.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 12-14, 24-27, 33-35 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 7324515 Chapman(here in after "Chapman").

**As per claim 1** Chapman teaches a cable modem termination system (CMTS), the CMTS comprising:  
a gateway configured to output signals on at least two types of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE) ( *Fig1, broadcast is a tunnel 28 is created to send OOB message to STB similarly and application tunnel for electronic program guide as mentioned* ), each data tunnel

Art Unit: 4144

characterized as a one-way data stream of out-of-band (OOB) messaging signals (*Column 6, line 52-55, different tunnels are created to different messages to send it over to CPE*) wherein each type of data tunnel is associated with a different type of OOB messaging signals such that different types of data tunnels transfer different types of OOB messages (*Column 3, line 1-4, data tunnel is associated with broadcast tunnel to multiple*).

**As per claim 2** Chapman teaches the CMTS of claim 1 wherein the gateway is configured to output the OOB messaging signals on at least four types of data tunnels (*Column 2, line 28-31, mention about four types of Out-of-band messages for tunnelling to the CPE from CMTS*).

**As per claim 3** Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a broadcast tunnel (*Column 3, line 1-2, creates a DOCSIS broadcast tunnel 28 in the HFC 21 to all of the clients 26*).

**As per claim 4** Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a conditional access tunnel (*Column 6, line 52-55, different messaging tunnels are created conditional access is one of the message*).

**As per claim 4** Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is an application tunnel (*Column 6, line 10-12, Electronic programming guide is used for sending application information*).

**As per claim 6** Chapman teaches the CMTS of claim 1 wherein at least one of the types of data tunnels is a code download tunnel (*Column 1, line 14-15, software updates messages are sent to individual CPE as a channel for software updating of the equipment*).

**As per claim 12** Chapman teaches the CMTS of claim 1 wherein each data tunnel is identified with a network address (*Column 6, line 57-62, each destination is identified by an IP address it establishes a different Ethernet tunnel for each of the IP addresses*).

102

**As per claim 13** Chapman teaches the CMTS of claim 1 wherein the gateway transfers the OOB messaging signals according to protocols defined in a Data Over Cable Service Interface Specification (*Column 3, line 62-63, shows the modified process that the DOCSIS cable modems use for receiving OOB packets*).

Art Unit: 4144

**As per claim 14** Chapman teaches the CMTS of claim 1 wherein the CPE is a settop box (*Fib 1, box 16, CPE here is shown as settop box* ).

**As per claim 24** Chapman teaches a method of transferring out-of-band (OOB) messaging signals from a cable modem termination system (CMTS) to Customer Premises Equipment (CPE) (Fig 1.), the method comprising: outputting the OOB messaging signals from the CMTS onto at least two types of data tunnels for transfer over a cable network to the CPE (*Fig1, broadcast is a tunnel 28 is created to send OOB message to STB similarly and application tunnel for electronic program guide as mentioned* ), each data tunnel characterized as a one-way data stream of OOB messaging signals (*Column 6, line 52-55, different tunnels are created to different messages to send it over to CPE* ), wherein each type of data tunnel is associated with a different type of OOB messaging signal such that different types of data tunnels transfer different types of OOB messages (*Column 3, line 1-4, data tunnel is associated with broadcast tunnel to multiple*).

**As per claim 30** Chapman teaches the method of claim 24 wherein the CMTS is configured to output OOB messaging signals to a plurality of CPEs (*Column 2 line 33-35, multiple messages are being transmitted to multiple clients*), and wherein the CMTS outputs a first tunnel type having a type of OOB message that is associated with a portion of the CPEs on the cable network and a second tunnel type having a type of OOB message that is associated with one

Art Unit: 4144

or more but not all of the portion of the CPEs on the cable network that are associated with the first tunnel type ( *Fig 1, 28, each tunnel having distinct identification for destination*).

**As per claim 25** Chapman teaches a method of claim 24 further comprising outputting the OOB messaging signals on at least four types of data tunnels (*Column 2, line 28-31, mention about four types of Out-of-band messages for tunneling to the CPE from CMTS*) .

**As per claim 26** Chapman teaches the method of claim 24 further comprising outputting the OOB messaging signals according to protocols defined in a Data Over Cable Service Interface Specification (DOCSIS) (*Column 3, line 62-63, shows the modified process that the DOCSIS cable modems use for receiving OOB packets*).

**As per claim 27** Chapman teaches the method of claim 24 further comprising associating each data tunnel with a network address (*Column 6, line 57-62, each destination is identified by an IP address it establishes a different Ethernet tunnel for each of the IP addresses*).

**As per claim 33** Chapman teaches a method of transferring out-of-band (OOB) messaging signals from a cable modem termination system (CMTS) to a customer premises equipment (CPE) (Fig 1.), the method comprising:

Art Unit: 4144

outputting the OOB messaging signals from the CMTS to a cable network through a plurality of output ports ( *Fig 6, table 110, ports 1, 2, 3 are used for sending the OOB messages to STBs through the fiber/coaxial network*), wherein each output port is capable of transferring different OOB messaging signals ( *Column 7, 17-19, Each port number can send different kind of message to the STB/cable modems for downstream channel, each STB/Cable identify the port from the packet*).

**As per claim 34** Chapman teaches the method of claim 33 further comprising outputting at least two types of data tunnels on each output port (*Fig1, broadcast is a tunnel 28 is created to send OOB message to STB similarly and application tunnel for electronic program guide as mentioned every packet is send through the port* ).

**As per claim 35** Chapman teaches the method of claim 33 further comprising associating a first and a second one of the plurality of output ports with different OOB messaging signals (Column 7, line 17-20, for each OOB messages have encapsulated messages from each of the port).).



*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 7-11, 18-23, 36-38, are rejected under 35 U.S.C. 103(a) as being anticipated by US Patent 7324515 to Chapman (here in after "Chapman") , and further in view of US PG Publication US 2003/0120819 A1, to Abramson et al (here in after "Abramson ").

**As per claim 7**, Chapman does not teach but Abramson teaches the CMTS of claim 1 further comprising a plurality of output ports in communication with the gateway for outputting the data streams of the data tunnels onto the network, wherein each output port includes at least two types of data tunnels ( *Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of output ports in communication with the gateway for outputting the data streams of the data tunnels onto the network, wherein each output port includes at least two types of data tunnels, as suggested by Abramson. This modification would benefit the system of Chapman by acting as a cable modem termination system which can create multiple tunnels through multiple ports.

**As per claim 8**, the combination of Abramson and chapman teaches the CMTS of claim 7 wherein a first and a second one of the plurality of output ports are associated with different types of OOB messaging signals (chapman, *column 7, line 17-20, for each OOB messages have encapsulated messages from each of the port*).

**As per claim 9** the combination of Abramson and chapman teaches the CMTS of claim 8 further comprising a plurality of blades, each blade including one or more output ports (Abramson, *Fig 1, Blade B has more than one port from 102 b to 116b*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having a multiple blade single chassis cable modem termination system.

**As per claim 10** the combination of Abramson and chapman teaches the CMTS of claim 9 wherein the first and second output ports are located on the same blade (Abramson, *fig 1, Blade B 102b and 104 b are located in the same blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the same blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

**As per claim 11** the combination of Abramson and chapman teaches the CMTS of claim 9 wherein the first and second output ports are located on different blades (Abramson, *Fig 1, 102a in blade B and 102 b in blade b are located in the different blade* ).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the different blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports single chassis and multiple blades so that multiple tunnels can be created for multiple clients.

**As per claim 18** chapman teaches the a cable modem termination system (CMTS), the CMTS comprising:  
a gateway configured to output signals on a plurality of data tunnels for transfer over a cable network to Customer Premises Equipment (CPE) (*Fig1, broadcast is a tunnel 28 is created to send OOB message to STB similarly and application tunnel for electronic program guide as mentioned*), each data tunnel characterized as a one-way data stream of out-of-band (OOB) messaging signals (*Column 6, line 52-55, different tunnels are created to different messages to send it over to CPE*); and

Chapman does not teach but Abramson a plurality of output ports for transferring the OOB messaging signals from the gateway to the cable network,

Art Unit: 4144

wherein each output port is capable of transferring different OOB messaging signals (10/027781, *Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by plurality of output ports for transferring the OOB messaging signals from the gateway to the cable network, wherein each output port is capable of transferring different OOB messaging signals, as shown by Abramson. This modification would benefit the system of Chapman by having port which can produce multiple tunnels for multiple OOB messages.

**As per claim 19** the combination of Abramson and chapman teaches the CMTS claim 18 wherein each output port includes at least two types of data tunnels (Abramson, *Para[0027], downstream port 102b provides services to different areas each areas can serve different downstream messaging tunnels*).

Motivation:

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by each output port includes at least two types of data tunnels as shown by Abramson. This modification would benefit the system of Chapman by having port which can produce multiple tunnels for multiple OOB messages.

**As per claim 20** the combination of Abramson and chapman teaches the CMTS of claim 18 wherein a first and a second one of the plurality of output ports are associated with different OOB messaging signals (Chapman, *Column 7, line 17-20, for each OOB messages have encapsulated messages from each of the port*).

**As per claim 21** the combination of Abramson and chapman teaches the CMTS of claim 20 further comprising a plurality of blades, each blade including one or more output ports (Abramson, *Fig 1, Blade B has more than one port from 102 b to 116b*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

**As per claim 22** the combination of Abramson and chapman teaches the CMTS of claim 21 wherein the first and second output ports are located on the same blade (Abramson, *Fig 1, Blade B 102b and 104 b are located in the same blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the same blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports on the same ports for creating multiple tunnel messages through the port.

**As per claim 23** the combination of Abramson and chapman teaches the CMTS of claim 21 wherein the first and second output ports are located on different blades (Abramson, *Fig 1, 102a in blade B and 102 b in blade b are located in the different blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second output ports are located on the different blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports single chassis and multiple blades so that multiple tunnels can be created for multiple clients.

**As per claim 36** the combination of Abramson and chapman teaches the method of claim 35 further comprising associating the plurality of output ports with a plurality of blades, each blade including one or more output ports (Abramson, *Fig 1, Blade B has more than one port from 102 b to 116b*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having a multiple blade single chassis cable modem termination system.

**As per claim 37** the combination of Abramson and chapman teaches the method of claim 36 further comprising associating the first and second output ports with the same blade (Abramson, *Fig 1, Blade B 102b and 104 b are located in the same blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by comprising a plurality of blades, each blade including one or more output ports, as shown by Abramson. This modification would benefit the system of Chapman by having a multiple blade single chassis cable modem termination system.

**As per claim 38** the combination of Abramson and chapman teaches the method of claim 36 further comprising associating the first and second output ports with different blades (Abramson, *Fig 1, 102a in blade B and 102 b in blade b are located in the different blade*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by first and second



Art Unit: 4144

output ports are located on the different blade, as shown by Abramson. This modification would benefit the system of Chapman by having multiple ports single chassis and multiple blades so that multiple tunnels can be created for multiple clients.

4. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman") ,US Patent Number US 6853680 B1, to (here in after "Nikolich") and further in view of US PG Publication US 2005/0177861 A1, to Ma et al (here in after "Ma").

**As per claim 15** Chapman does not teach but combination of Nikolich and Ma teaches the CMTS of claim 1 wherein the CPE includes an embedded cable modem (eCM) (*Nikolich, Column 10, line 55-56, mentions about an embedded cable modem*) and an embedded settop box (eSTB) (*Ma, Para[0028], an embedded cable modem is mentioned in the customer premise*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman the CPE includes an embedded cable modem (eCM) and an embedded settop box (eSTB) shown by combination of Nikolich and Ma. This modification would benefit the system of Chapman by having a eSTB an eCM as a CPE devices.

**As per claim 15** combination of Chapman, Nikolich and Ma teaches the CMTS of claim 15 wherein the OOB messaging signals are transferred to the eCM (Chapman, *Column 6, line 52-55, different tunnels are created to different messages to send it over to cable modem which can include embedded cable modem*).

5. Claims 17, 28-29 and 31-32 are rejected under 35 U.S.C. 103(a) as being anticipated US Patent 7324515 to Chapman (here in after "Chapman a") and further in view of US Patent Number US 7349430 B1, to Chapman (here in after "Chapman b").

**As per claim 17** 'chapman a' doesn't teach but 'chapman b' teach the CMTS of claim 1 wherein the CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data tunnels with network address (*Column 9, line 61-65, Each Channel is identified by a downstream channel descriptor for downstream message from CMTS to CM*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data

Art Unit: 4144

tunnels with network address shown by combination of chapman. This modification would benefit the system of Chapman by having downstream channel descriptor for a different tunnels.

**As per claim 28** 'chapman a' doesn't teach but 'chapman b' teach the method of claim 27 further comprising outputting a downstream channel descriptor (DCD) message from the CMTS, the DCD message associating the network addresses with the type of data tunnel (chapman b, *Column 9, line 61-65, Each Channel is identified by a downstream channel descriptor for downstream message from CMTS to CM* ).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention, to modify the system of Chapman by CMTS outputs a downstream channel descriptor (DCD) for associating the different types of data tunnels with network address shown by combination of chapman. This modification would benefit the system of Chapman by having downstream channel descriptor for a different tunnels.

**As per claim 29** combination of 'chapman a' and 'chapman b' teach the method claim 28 wherein the DCD message includes a tunnel type identifier for each network address included therewith (chapman a, *Fig 1, Box 18, each tunnel is identified by an IP address*).

**As per claim 31** combination of 'chapman a' and 'chapman b' teach the

Art Unit: 4144

method of claim 29 wherein the first tunnel type is a broadcast or application tunnel (chapman a, Column 3, line 1-2, *creates a DOCSIS broadcast tunnel 28 in the HFC 21 to all of the clients 26*).

**As per claim 31** combination of 'chapman a' and 'chapman b' teach the method of claim 29 wherein the second tunnel type is a conditional access tunnel (chapman a, Column 6, line 52-55, *different messaging tunnels are created conditional access is one of the message*).

#### *Conclusion*

9. Prior arts made of record, not relied upon: US Patent 6347303; US Patent 7260648; US Patent Publication 2005/0198680 A1, ; US Patent Publication 2004/0139473 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANEZ EBRAHIM whose telephone number is (571)270-7153. The examiner can normally be reached on M-F 8 AM to 5 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi Arani can be reached on (571) 272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available

Art Unit: 4144

through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ACE/

/Taghi T. Arani/

Supervisory Patent Examiner, Art Unit 4144